



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,825	08/25/2006	Hiroshi Nakanishi	LB-1035-651	1234

23117 7590 06/12/2009  
NIXON & VANDERHYE, PC  
901 NORTH GLEBE ROAD, 11TH FLOOR  
ARLINGTON, VA 22203

EXAMINER
----------

HARRINGTON, ALICIA M

ART UNIT	PAPER NUMBER
----------	--------------

2873

MAIL DATE	DELIVERY MODE
-----------	---------------

06/12/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/590,825	<b>Applicant(s)</b> NAKANISHI, HIROSHI	
	<b>Examiner</b> /Alicia M. Harrington/	<b>Art Unit</b> 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>0409</u> .  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Information Disclosure Statement***

The Examiner has considered the information disclosure statement filed on 4/1/09.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP5-95834 in view of Whitney et al (US 2006/0250707).

Regarding claim 1, JP 5-95834 teaches a projection display for applying a backlight and controlling the transmittance state of pixel provide on the LCD panel wherein the display panel include cylindrical lens facing the back light and corresponding to the pixel (see figures 1 and 5); pixels on the display panel are disposed in matrix where the pitch of pixels in a first direction (horizontal) is longer than the pitch in the second direction (vertical). However, JP5-95834 fails to specifically disclose the backlight irradiates the micro lens with higher directivity in the first direction at angle of irradiation along the first direction than at angle along the second direction.

In the same field of endeavor, Whitney teaches a backlight for display where the backlight is configured to irradiate the display with higher directivity in the first direction at angle of irradiation along the first direction than at angle along the second direction (wider spread in horizontal direction /first direction-see section 63). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature since it would improve image brightness and uniformity.

Regarding claim 24, see Examiner's notes in claim 1. and Figure 2 of Whitney (sections 32 and 34).

Claims 1-3, 5-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Canon JP (03-184019 based on US 5,101,279) in view of Colgan et al (US 2003/0214615), further in view of Whitney (US 2006/0250707).

Regarding claims 1-3,5,23 Cannon discloses a LCD display panel wherein the display panel includes a micro lens array including a group of micro lenses corresponding to the pixels, the pixels on the display panel are disposed in a matrix manner and along a first direction and a second direction orthogonal to the first direction, and a pitch of the pixels in the first direction is longer than a pitch of the pixels in the second direction, and a directivity of the light traveling in the first direction is higher than a directivity of the light traveling in the second direction (see figures 1 and 2; and abstract and corresponding US 5,101,279). Based on the US translation, the first direction of has a lower directivity of light. However, Colgan teaches the lenticule can be formed such that the longitudinal axis corresponds with longitudinal axis of the pixel or orthogonal to the longitudinal axis (see sections 66 and 74 and figure 4) and thus a liquid crystal display can have a high directivity of light in the first direction with a range of half width angles (see section-claim 2). The lenticules are part of a LCD with polarization plates 24-(sections 64-65-claims 9-10). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature, as taught by Colgan, to increase light utilization and contrast. However, Canon and Colgan fails to teach the backlight irradiates the micro lens with higher directivity in the first direction at angle of irradiation along the first direction than at angle along the second direction.

In the same field of endeavor, Whitney teaches a backlight for display where the backlight is configured to irradiate the display with higher directivity in the first direction at angle

of irradiation along the first direction than at angle along the second direction (wider spread in horizontal direction /first direction-see section 63). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature since it would also improve image brightness and uniformity.

Regarding claims 6-7, Canon, Colgan and Whitney disclose the claimed invention except for the focal point is closer to the micro lens than to the pixel. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature , since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering an optical workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Regarding claim 8, they disclose the claimed invention except for the method of manufacturing the micro lens. However, in a product by process claim, the patentability is based on the product and the not the process, see MPEP 2113. In addition, it would have been obvious to one of ordinary skill in the art to apply a photosensitive resin, expose the resin and develop it, since these are notoriously well know method steps for producing a micro lens array,-The Examiner takes official notice to this fact.

Regarding claim 11-13, Canon discloses a polarizer and twisted angle LC. Canon, Colgan and Whitney fail to specifically disclose the claimed range. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature, since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering an optical workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Regarding claim 14-15, see Canon abstract. See also Colgan.

Regarding claims 16-22 and 26 are substantially equivalent to claims 1, 2, 9 and 11 discussed above and are examined as discussed above.

Regarding claims 24-25, see Examiner's notes in claim 1. and Figure 2 of Whitney (sections 32 and 34).

Claims 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Canon JP (03-184019 based on US 5,101,279) in view of Colgan et al (US 2003/0214615), further in view of Whitney (US 2006/0250707) in view of Sumida et al (US 2002/0057413).

Regarding claims 4, Canon, Colgan and Whitney fail to specifically lens half width angle. However, Sumida teaches a liquid crystal display with a sensors array having a different pitch in orthogonal directions including a lens array to focus to light onto the sensor, have a quality image output when the viewing angle range is as claimed (see sections 84 and 121). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature, since it improves the light utilization and contrast over a range of viewing angles. In addition, it has been held that where the general conditions of the claim are disclosed in the prior art, discovering an optimum workable range involves only routine skill in the art. In re Aller, 105 USPQ 233.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Alicia M. Harrington/ whose telephone number is 571 272 2330. The examiner can normally be reached on Monday - Friday 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571 272 2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alicia M Harrington/  
Primary Examiner  
Art Unit 2873

AMH